BGE Environmental, LLC.

Wetland Consulting and Land Use Planning

A2Z ENTERPRISE

WETLAND DELINEATION

Prepared for:
Dan Morrison
[redacted]

BGE10__450
APRIL 2010

2102 Brashem Ave
Bremerton, Washington 98310
(360) 710-6066
(360) 782-2224 Fax

A2Z ENTERPRISE
WETLAND DELINEATION

2102 Brashem Ave Bremerton, Washington 98310(360) 710-6066 (360) 782-2224 Fax
BGERobbyn@comcast.net

BGE Environmental, LLC.

April 19th, 2010

BGE10-450

Applicant	A2Z Enterprise PO Box 3051 Port Angeles, WA 98362
Project Location	Edgewood Drive Port Angeles, Washington
Tax Account	07330122100000000
Sec Twn Rng	12, 30N, 07W W.M.

BGE Environmental, LLC. performed a comprehensive wetland determination on a portion of a 90.45-acre parcel located north of Edgewood Drive and west of Critchfield Road (Figure 1). The subject parcel is fragmented into different land uses which include roads, fruit orchards, residential dwelling and out building, agricultural fields, Dry Creek and forest. The wetland determination did not encompass the entire parcel. Rather and area of investigation was defined prior to implementation of the comprehensive determination methodology. Areas determined to be wetland that extended outside of the area investigation were further documented if the wetland area was with agricultural field, the focus of this study. The findings of the comprehensive determination are presented in this report. The investigation area is shown in Figure 2.

BACKGROUND INFORMATION

Existing Conditions

The subject parcel is roughly rectangular in shape. Immediately north of the subject parcel is a single-family residence with similar open and forested areas. Land to the west remains undeveloped. The eastern boundary is defined by Dry Creek while land use in the south is rural developments.

The investigation area is generally flat in topography with a slight downward grade to the north corresponding to the natural flow of Dry Creek (Figure 3). The long term agricultural practices on the property have varied in size over time. However, the investigation area is known to be long term agricultural. Thus, the investigation area has been subject to historic agricultural practices which include plowing, discing, seeding and harvesting. These land use activities manipulate the surface topography on a macro and micro scale over the course of decades. Current conditions include small depressions, imprinted tracks, remnant traverses or harvest patterns, cleared and scarped surface layers.

Watershed

The subject parcel lies within the Dry Creek Watershed, part of the Urban Independent River system which includes Lees, Ennis, Peabody, Valley and Tumwater Creeks. The creek lies within the Port Angeles urban area and has been highly modified to accommodate urban and commercial development in Port Angeles. Salmon stocks within this watershed are depressed or extirpated. Dry Creek specifically does not have a distinct identified salmon stock and when present the numbers are very low. Dry Creek is a state listed 303D stream due to water temperatures and the major limiting factors include blockages, stormwater, lack of large wood, riparian and floodplain constrictions, along with loss of estuarine functions. It has little potential for salmonid production even with habitat restoration.

The headwaters of this watershed lie within the foothills of the Olympic Mountains. Many small headwater streams contribute to the watershed and the majority of these streams are within the boundaries of DNR (Washington Department of Natural Resources) land use. Long-term forest practices are the historic and current use. The stream bottoms out to the north along a terrace that includes the subject property. Surrounding land use is rural residential. Historically, Dry Creek meandered through the William R Fairchild International Airport property but was rerouted along the perimeter of the property to accommodate the runway. In addition, a small stream with associated wetlands east of Dry Creek are captured at the southern boundary of the airport and routed to Dry Creek through a ditch that runs the extent of the airport to its convergence with the rerouted channel of Dry Creek. As the stream continues to the north its buffer become larger, remains forested and well intact while the surrounding land use remains as rural, single-family use.

Aerial Maps

Aerials of the subject property were evaluated for interpretation of any repetitive wetland signatures, a standard practice for delineation. Aerial data reviewed included historic flights from the City of Port Angeles database and GOOGLE/earth©. Human activity on-site has altered wetland indicators and aerial comparisons are particularly usefull in identifying wetness signatures under these conditions. Consideration to seasonal cycles, long-term trends of multi-year droughts alternating with years of higher-than-average rainfall certainly impose a standard deviation to the accuracy of the interpretations. Aerials reviewed date back to 1965. The manipulation of the surface by normal agricultural activities revealed alternating crop patterns, rotational plantings, reforestation of harvest areas, patches of greener vegetation during dry periods warranting further investigation for wetland determination. All of these signatures were different between years; 1965, 1985 and 1995 (Appendix A). Because the site is compromised from the historic land use, emphasis on the aerials, as in any delineation, was used as a tool only and should not be weighted more heavily than on the ground conditions. Therefore the investigation was conducted using comprehensive determination methodology.

Soil Survey
The soil survey of Clallam County indicates two onsite soil types. The first soil defines the westernmost portion of the investigation area and is identified as Clallam gravelly sandy loam, 0 to 15 percent slopes. This moderately deep, moderately well drained soil is on hills and formed in compact glacial till. Permeability is moderate to the compact glacial till and very slow through it. Water is typically perched above the compact glacial till from January through April.

If this unit is used for hay and pasture, the main limitations are steepness of slope and droughtiness. Proper stocking rates, pasture rotation and restricted grazing during wet periods help to keep the pasture in good condition. Water capacity is low and summer irrigation is needed for maximum production of most crops. Irrigation water needs to be applied carefully to prevent the buildup of a high water table.

If used for home site development, the main limitation is wetness. Excavation for roads and buildings increases the risk of erosion. Septic tank absorption is limited by wetness and depth to glacial till, therefore onsite sewage disposal systems often fail to function properly during periods of high rainfall. Use of heavy equipment during construction compacts the soil and reduces permeability, particularly during periods when the soil moisture content is high.

Bellingham silty clay loam defines the eastern portion of the investigation area and is a very deep, poorly drained soil is in basins on low terraces. Often found in this series are areas of sand, gravel and muck (Cassolary, McKenna, Mukilteo, and Puget soils). Permeability and runoff is slow and the available water capacity is high. Effective rooting depth is limited by a seasonal high water table that is at the surface to a depth of 1 foot below the surface from November through June.

When pastureland and hay land are used in this soil series, the main limitation is wetness and restricted permeability. Grazing when the soil is wet results in compaction of the surface layer and poor tilth. Drainage can be used to reduce wetlands if a suitable outlet is available. Use of equipment when the soil is wet results in compaction, which restricts exploration of moisture and roots.

These defined soils that contribute to seasonally high water table, ponding and compaction are well suited to the conditions observed on the parcel. The aerial map and soil summaries are provided in Appendix A.

National Wetland Inventory
No wetlands are mapped on the NWI for the parcel as a whole, specifically none within the investigation area as well. Off-site wetlands are shown to the north as PFO1C, a Freshwater Forested/Shrub system approximately 7-acres in size. In addition, to the east there lies another system identified as PEM1A Freshwater Emergent Wetland 8.3-acres in size. This wetland was identified and a determination concluded by BGE Environmental, LLC in June 2006. See Appendix A for NWI mapping.

Local Resources
The City of Port Angeles critical area maps indicate that the majority of the interior of this parcel is wetland. Public disclosure request for the documentation of this determination resulted in no such quantification. Personal communications with Scott Johns, city planner, stated that during the development of the Critical Area Code for the City in the early 1990's, a contracted biologist provided a "windshield" assessment of wetlands within the urban growth area. Mr. Johns stated that no property was entered or determination quantified under to contracted services. The City was seeking broad brush analysis for the resources currently being considered under State mandates. Mr. Johns also stated that the determination of the parcels wetland was likely conducted in the wet season, since the property is observed and "well known" to pond in the winter.

The parcel was delineated once before in June 2006 by Alkai Consultants, LLC.

State Resources
No natural heritage features associated with wetlands are identified with the resources on-site or within the vicinity of the parcel[1]. Likewise, Dry Creek specifically does not have a distinct identified salmon stock and when present the numbers are very low.

WETLAND DELINEATION AND ASSESSMENT

Analysis of Atypical Situation
Wetlands identified on the subject property were determined using the methodology for a Comprehensive Determination.[2] This methodology was chosen because of the sites complexity and historically altered parameters. As a result of the long term agricultural practices on the parcel, specifically within the investigation area, any one, if not all three parameters (vegetation, soils and water) may be disputed. Rigorous documentation is warranted and has been requested (ACOE lettered correspondence) for the determination within.

Vegetation within the investigation area is seeded grasses and forbes. This plant community has been managed for over 80 years in which the landscape has incurred periodic disking or plowing, planting of native and non-native species, irrigation and/or the use of herbicides. These factors alone deem the vegetation parameter as problematic. However, the investigation area has not been plowed or seeded for over seven years, removing the strong influence of a managed agricultural community. The majority of species present are recognized as native[3] yet introduced. The on-site species are not considered noxious and only one of the documented species is listed as a Class B noxious weed[4], *Hypochaeiris radicata.*

[1] http://www.dnr.wa.gov/ResearchScience/Topics/NaturalHeritage/Pages/amp_nh.aspx

[2] Wetland Training Institute, Inc. 1991. Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual. WTI 91-2. 133 pp.
[3] *http://www.wnps.org/plant_lists/counties/clallum/clallum_county.html*
[4] *http://www.nwcb.wa.gov/index.htm*

Therefore the lack of recent disturbance to the vegetation community provides a descent indication of areas that support hydrophytic communities. Temporal shifts in vegetation dominance have been observed and documented on a seasonal basis. Although the vegetation community is not typical for wetland in the region, these communities provide definition of areas than can and do support wetland conditions. Therefore the vegetation does provide a reliable fingerprint for hydrophyte evaluations.

Soils are equally compromised from agricultural practices, particularly disking and plowing. The site is observed as ponded, in areas, during the wet season with hardened, compacted soils in the dry season. Past wetland determinations have documented hydric soils and non-hydric soil conditions that tend to checkerboard throughout the parcel. Reduced soils are clearly identified in areas that have had long term, consistent saturation. Like the vegetation community's stability, the soils in the investigation area have not been turned or disturbed by plowing in over seven years. In the absence of any recent surface disturbances, short of tractor or vehicular tracks, persistent hydric soil features from the surface to the prevalent clay layer were easily documented.

The seasonal presence of water on the parcel and within the investigation area is "known" and is as historic as the current land use. Set on a geological plateau off the Olympic Mountains the parcel services hydrologic transfer of both surface water and ground water to the Strait of Juan De Fuca during the wet season. Underlain with clay at thirteen to eighteen inches, the parcel is a conduit for these waters until dry weather sets in. Alterations to the hydrology from the agricultural practices include drain tiles that are observed as a greener strip from the south to north. The inlet of this tile system is *assumed* to originate at an individual rose bush which has a hole at its base. During heavy rain events surface waters drain towards this hole and it has never be observed as full or overflowing.

The site was visited during a highly improbable rain event (50 to 100-year storm) in November 2009. Four days prior to the site visit, the Port Angeles area received 5.74-inches of rain which is more precipitation in four days than the normal monthly records of 4.4-inches. The observed surface flows were consistent with the theory of the south to north drainage throughout the property. In fact, a surface water conveyance noticeable on a 1995 aerial was observed on-site. In addition, uncapped artesian wells were boiling from the ground. Areas of the parcel which remain saturated, at best, during the dry season were noted as ponded or supersaturated at the surface. This recent storm event emphasized that the landscape position of this site to the adjacent foothills of the Olympic Mountains, coupled with the shallow clay layer, transports quite a bit of ground water during the winter months. In addition, due to the steady gradual slope of the landscape, the impervious clay layer and shallow surface soils, the water is detained on-site for a brief period of time. Once the source is exhausted so is the water on-site. Emphasis shall again be stated on the fact that the surface has not been subjected to disking or plowing which would result in land leveling. This allows for the identification of surface water flows on the

parcel during wet season and storm events, however, these established conveyances are the tell-tell story of storm events and not necessarily the right of passage to wetland jurisdiction. Completion of the determination must consider wetland vegetation and/or hydric soils. Although drain tiles may have been used historically to expedite the removal of stormwater from the site, the landscape hydrology is not problematic from these past actions. Its disputability stems from limited storage capacity as an emergent, managed landscape and the cyclical hydrological regime from wet to dry.

With an established flashy hydrology on and within a seasonal basis, the wetland determination was scheduled early March at the very beginning of the growing season when hydrology would be present and not yet receding in its normal procession towards summer. In order to minimize false-positive and false-negative determinations for hydrology, precipitation records were reviewed. The records indicate that although December, January and February were drier than normal, receiving a deviation less than average, the wet season October to March had an excess deviate, or slightly higher than average precipitation. Wet weather variables show that winter precipitation was 1.71-inches above normal with a high standard error within months. March precipitation was only slightly lower by 0.04-inches. The following table summarizes the recorded precipitation data[5] from October 2009 to March 2010.

MONTH	ACTUAL	NORMAL	DEPARTURE
October	5.28	2.46	+2.82
November	10.69	4.4	+6.29
December	1.17	4.4	-3.23
January	2.32	3.86	-1.54
February	0.20	2.79	-2.59
March	2.08	2.12	-0.04
TOTAL	**21.74**	**20.03**	**1.71**

From the analysis and long term trend observations aforementioned above, the site was considered to exist under normal environmental conditions or specifically **not** atypical for precipitation. All three parameters are present, consistent in trend and quantifiable for jurisdiction.

Determination of Methodology

To proceed under a comprehensive determination a baseline was established parallel to dry creek along the eastern boundary of the investigation area. The baseline extended a distance of 775-feet north to south. The baseline was divided into three segments of roughly 260-feet and labeled at I, II and III, Figure 4. Based on the western boundary limitation of the investigation area (which is defined by the existing tree line) transects within segments ranged from 570-feet to 325-feet in

[5] *www.accuweather.com*

length. Based on transect lengths less than 1,000-feet, observation points along the transect may range between 2-10 with interval distances of 100-feet between points.

Statistically, only one transect per segment is necessary for a comprehensive determination. Because soils are known to reflect checkerboard character in the landscape and that equally hydrology could be just as evasive or prominent, two transects per segment were established. The first was not random, set at distance 0 for each segment I, II and III ("A" transects). The second transect was positioned using a random number table and labeled as "B" transects, Figure 4 . Observation points were taken along the transects at approximated intervals between 80 to 10-feet.

Data from each observation point was documented using the US Army Corps of Engineers *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.* ERDC/EL TR-08-13. April 2008 and the Washington Department of Ecology *Washington State Wetland Identification and Delineation Manual (1997).* Wetland determinations were made for all transect observation points. The wetland determination was processed using the 'Wetland Determination Data Form" from the aforementioned Corps manual. Upon approaching each observation point, observable changes in vegetation or topography were typically negligible along transects. Observation points required assessment and analysis on-site for conclusive evidence in the determination at each point. Once documented and flagged the next observation point was recorded, assessed and determination concluded. When two adjacent observation points were found to be different, one wetland and one non-wetland the area was alternately flagged for further investigation and determination of wetland boundary. Transect data, 81 observation points, was documented and recorded prior to returning to the areas that were documented as wetland.

In the areas found to have wetland criteria, further sample points were taken, off transect, for the assessment and documentation of findings to accurately delineate the wetland boundary. The procedure consisted of traversing the area between the transect observation points and making additional wetland determinations to locate the wetland boundary at sufficiently close intervals (not necessarily standard intervals) so that the area can be surveyed. Repetiously, the surrounding area was visually assessed for changes in vegetation or topography. More than one hole may have been dug where these changes were absent or very subtle. However, data within all holes were not necessarily recorded, yet left open, temporarily, for statutory review of the findings of this report. Sample points were labeled to depict the obvious and documented change in vegetation, soils, hydrology or topography. For ease of delineation and line interpretation the additional observation points were labeled SP and K for wetland and non-wetland respectively. The distance between these points varied on sample point conditions and ranged from 10 to 30-feet throughout the investigation area. When deemed appropriate, observation points along transects were used to document the non-wetland from the wetland or vice-versa.

This analysis concluded three wetlands amongst 80 sample points, within 41 transect observation points (121 documented plots) along 6 transects. Additional pits were dig and observed for concurrence and/or deviations, but not recorded as deemed repetitive or consistent with adjacent findings. Transect observation points and all sample points were surveyed and provide as exhibits, provided at the end of this report as Wetland Location Exhibits, Sheets 1 through 4.

Wetlands

Wetland A (flagged WA) was the first wetland targeted from sample points IA5 and IA6. Upon proceeding with the delineation, the wetland moved out of the investigation area towards the south (sample points SP6 to SP1). This area is equally agricultural field bound to the west by a tree line, to the east by the property access road and south by Edgewood Road. The landscape is visually flat amongst small rises towards the east and south. The above ground biomass appeared to be slightly higher, or taller grasses, in select areas of the wetlands landscape. Where it was observed to appear greener, density or absolute percent cover was greater in magnitude leaving little to no bare ground within the sampled plot. Vegetation coverage was dominated by *Holcus lanatus*, *Ranaunculus* spp, *Festuca rubra*, *Dactylis glomerata* and *Trifolium spp.* Dominated by Facultative species this area of the wetland had a shallow soil profile to thirteen inches prior to the clay layer (10YR5/2+, 10YR5/6 (30%)). Soils in the upper profile were a dark grayish brown with very rare to frequent yet always striking mottles (10YR3/2 or 10YR4/2 with mottles 10yr4/6 (1%) and 10YR4/4 (15%)). Hydrology included areas of shallow yet inundated surface depressions but could also be dry at the surface. The typical water table stabilized at 8-inches yet ranged from 3 to 10-inches in depth.

Because Wetland A extended further to the south, hugging the western tree line, additional transect like observation points were conducted eastward towards the property access road. Recorded observation points well outside of the sampling points for the wetland delineation include K6 and K7. Additional sampling points were dug and judged as non-wetland, equivalent to the aforementioned points. These points were not recorded but left open for statutory approval. These additional points allowed us to determined with greater accuracy the non-wetland determination in this portion of the property outside of the investigation area.

The transition from wetland to non-wetland (sample points K1 to K5) along this eastern extent of Wetland A eliminated the Facultative dominance, although most of these species were still present but dominate less than 20-percent of the plot. Vegetation diversity shifted towards upland species such as *Dactylis glomeratea*, *Daucus carota*, *Leucanthemum vulgare* and *Plantago lanceolata.* These non-wetland areas revealed soils with uniform profiles of 10YR4/4 down to 16-inches prior to the clay layer. In some cases soils were only slightly lighter than the recorded hydric soils at 10YR3/3 or 10YR 4/3 with or without mottling. In these sample pits water was absent from the upper 12-inches and as stated above shifted away from a hydrophyte dominate community. The range of observed water table fluctuations on

this eastern non-wetland portion of the property ranged from 12-inches to 23-inches in depth.

The western boundary of Wetland A was determined through the exploration of additional sample points off transect (SP9 to SP11). This side of the line was established with a heavier basis of non-wetland sample points (K13, K14, K15, K56, K57, K33, K30, K28, K27, K20 to K22) than wetland. This analysis was driven by an observable change in vegetation from wetland to non-wetland. The most abundant species coverage in the non-wetland area included *Leucanthemum vulgre*, *Daucus carota*, *Dactylis glomerata* and some *Festuca rubra*. Upland vegetation above ground coverage typically diminished revealing a greater percentage of bare ground within the sample plot. The shift in vegetation dominance also established a trend from slightly higher stem reach due to the species present. Specifically, the Facultative Upland and Upland indicator species which prevailed are observably, dichotomously different. Soils in this non-wetland area were a light brown with mottles down to 12 to 13-inches before hitting clay (10YR4/4 with 10YR6/6 (15%)). Some sample soils were relatively darker but lacked mottles (10YR3/3 (100%)). Topography was equally an observable change along this western portion of the wetland boundary. Non-wetlands could be noted as slightly elevated when directly compared or quantified to the adjacent sample points. Quite visual is an elevation rise separating Wetland A and B (reference flags WA19 to WA23). The observed water table within the non-wetland sample points was recorded at 10-inches in a few sample pits, but the majority of the documented point locations had no water at all or a stabilized water table between 15 to 22-inches. The wetland does continue into the forested canopy from the north and the east, but this extension of the wetland was not investigated, thus delineated, further into the canopy for the purpose of this report.

Wetland B (Flagged WB) is a small depression in the landscape south and adjacent the topographical rise defined along Wetland A (WA19, WA20, WA21, WA22, WA23). Inundated and dominated by *Ranunculus species*, this wetland extends into the forested canopy. No wetland samples were taken or recorded in the wetland proper. The wetland was flagged according to the non-wetland findings detailed in sample points K24 and K25 where *Leucanthemum vulgare*, *Dactylis glomerata*, *Festuca rubra* and *Holcus lanatus* dominated and shifted between wetland and non-wetland dominance. Hydrology was either present or absent but soils remained non-hydric (10YR4/4) throughout.

Wetland C (Flagged WC) is in the northern reach of the investigation area and extends from the western limits of the investigation area along the forest, along the northern extent of this investigation area, to well beyond the eastern boundary of the investigation area. It originates in the north western corner of the forest extending outward, away from the forest into the cleared agricultural field yet is bound by a topographical hump which is easily discernible to the naked eye and defined from transect observation point IIB7. The wetland boundary line traverses and mimics the forests boundary line, proceeding to the north-northeast through the

investigation area. The determination was best documented by non-wetland sample pits since transect observation points IIB6, IIIA6, IIIB3, IIIB4 and IIIB5 were documented as wetland. Vegetation was dominated by Facultative Wetland species which include *Echinochloa crusgali, Ranunculus spp., Festuca rubra* (FAC) and *Dactylis glomerata.* Soils were dark grayish in color with mottles (10YR 3/2, 10YR5.3 (1%) and 10YR4/6 (3%)) down to 13-inches on average. Hydrology was extended as a high water table from 2 to 11-inches from the surface. Non-wetland sampling points (K34 to K44) deviated to Upland dominated individuals such as *Leacanthemum vulgare, Daucus carota* and *Plantago lanceolata.* Soil profiles extended from 8 to 14-inches prior to transitioning to the clay layer typical. Soil color was consistently dark brown with no mottles, 10YR3/3 or 10YR 4/4. In those sample points K, deemed non-wetland, a high water table was observed between 10 to 16-inches.

The wetland extends to the north until one point (SP14 and WC11) where the boundary turns due south and continues this direction parallel the established investigation area baseline. In this eastern portion of the wetland, sample points were taken well outside the established baseline and investigation area in order to assess the extent of this wetland to the east. The eastern magnitude of the wetland boundary is documented in sample points K52, K53, K54 and K55. The non-wetland transition was once again an Upland and Facultative Upland dominance of *Leucanthemum vulgare, Dactylis glomerata, Daucas carota, Taraxacum officionale* and *Plantago lanceolata* in dark brown soils down to 13-inches (10YR3/3). The water table was stable at 10 to 11-inches.

This eastern portion of Wetland C exists perpendicular to the topographic gradient and parallel of Dry Creek. Its southern reach originates and engulfs a ditch in the backyard of the existing residence. This ditch is an overflow conveyance for the drainfield adjacent an old apple orchard. The ditch is deep (2-feet) at its origin, makes a 90-degree turn to the north before it quickly transitions as sheet flow northward. This ditch and its associated surface waters are east of the established baseline, outside of the initial investigation area. The southern-most boundary of Wetland C was not delineated as it originates outside of the investigation area and within the associated use of the residence and orchard. The ditch, albeit sustaining surface water and a slight flow during the time of the determination, is consistently dry in the summer months.

The interior of this southeastern portion of this wetland, Wetland C, which includes the flows extending from the aforementioned ditch and the established baseline, is documented wetland at IIIA1, IIIA2, IIIB1, SP14 to SP19 in addition to SP20 to SP23 along the eastern boundary. This portion of the wetland tended to have a high species diversity of Upland to Facultative Wetland indicator species, where the dominate coverage was *Festuca rubra, Hypochaeiris radicata, Ranunculus spp., Trifolium spp.* and/or *Echinochloa crusgalli.* Facultative Upland and Upland species while present where not significantly observed for the 50/20 dominance. All of the sample points except one, were a dark grayish brown with infrequent mottles

(10YR3/2, mottles of 10YR4/6, 5/6 or 6/6). This variation of soil color dominated from 8 to 15-inches in depth. The water table stabilized anywhere from 5-inches to 11-inches.

Non-Wetland

As rigorously documented under the Comprehensive Determination methodology, the investigation area trended towards being bound by wetlands to the north, south and east. The majority of the western boundary was determined as non-wetland to the forested canopy. Significant differences were recorded in the non-wetland interior in relation to the surrounding wetland areas and ecotone. Of the 40 observation points taken along the six transects, approximately twenty-seven were determined to be non-wetland. Of the twenty-seven non-wetland observation points, seventy percent had no water or a stabilized water table at depth between 14-inches down to 22-inches. Hydrology was absent in observation points; IA3, IA4, IB3, IB4, IIB2, IIB3 and IIB4. Non-wetland observation points that contained water but the water table stabilized below 14-inches below the surface was observed at IB1, IB2, IIA1, IIA2, IIA3, IIA4, IIA6, IIA8, IIB1, IIB5, IIB7 and IIIA3. The remaining eight non-wetland observation points saturation or a water table in the upper 12-inches could not bare confirmation for wetland in absence of hydrophyte dominance/prevalence or hydric soils. The non-wetland interior revealed a clay layer at depths recorded from 10 to 14-inches, which is consistent throughout the investigation area for both wetland and non-wetland areas. Soil color in the non-wetland observation points was a light brown with mottles (10YR 4/4, 10YR5/6(3%)) or dark brown with no mottles (10YR3/3(100%)). Vegetation was dominated by *Leucanthemum vulgare, Plantago lanceolata, Daucus carota, Trifolium spp., Vicia hirsuta, Taraxacum officionale* and *Dactylis glomerata*. In some cases no species dominance was applicable under the 50/20 dominance test and prevalence failed to confirm a hydrophyte community. Much of the same vegetation is present throughout the investigation area with only a few species occurring once within a sampled plot as vegetation trends out of the dormant season. Some distinct variations in this vegetation could be seen in the landscape but this visual was not confirmed as a distinction between wetland and non-wetland. This determination had to be quantified for each observation point or sample point. Landscape formation with observable rise and fall in the non-wetland areas comparable to the wetland areas was not definable. Small hills or observable changes in elevation were better defined in the wetland section where wetland and non-wetland areas diverged.

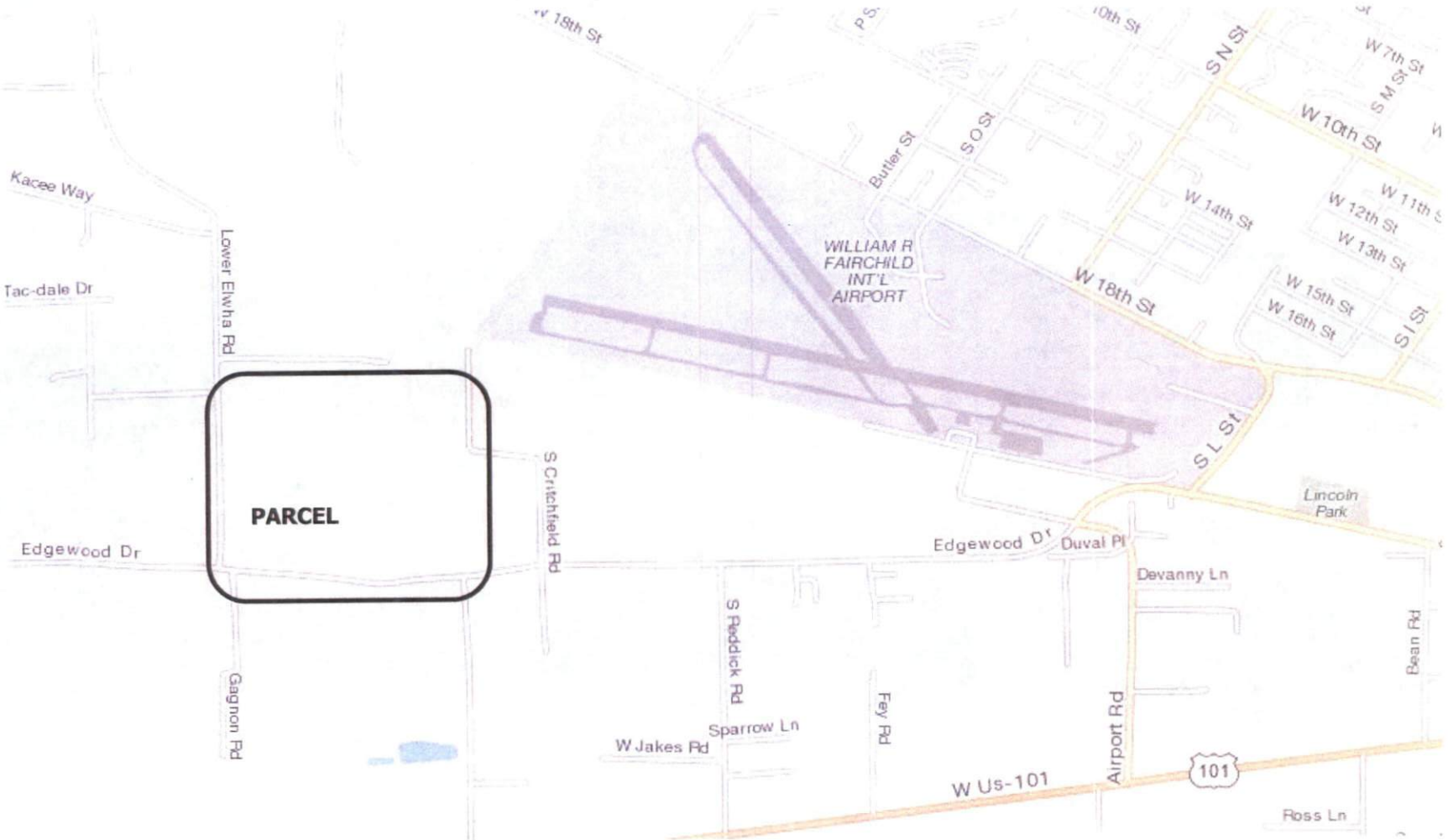
SUMMARY

The wetland determination for the investigation area located three wetlands, Wetland A, B and C. The wetland delineation trended outside of the investigation area boundary for Wetlands A and C. All three wetlands are assumed to extend into the binding forest canopy, yet the extent of it jurisdiction was not investigated for the purpose of this report. The driving factors of the wetland jurisdiction were primarily based on the presence of a dominate hydrophyte community and the presence of hydric soils. Where these parameters were strong for wetlands, the

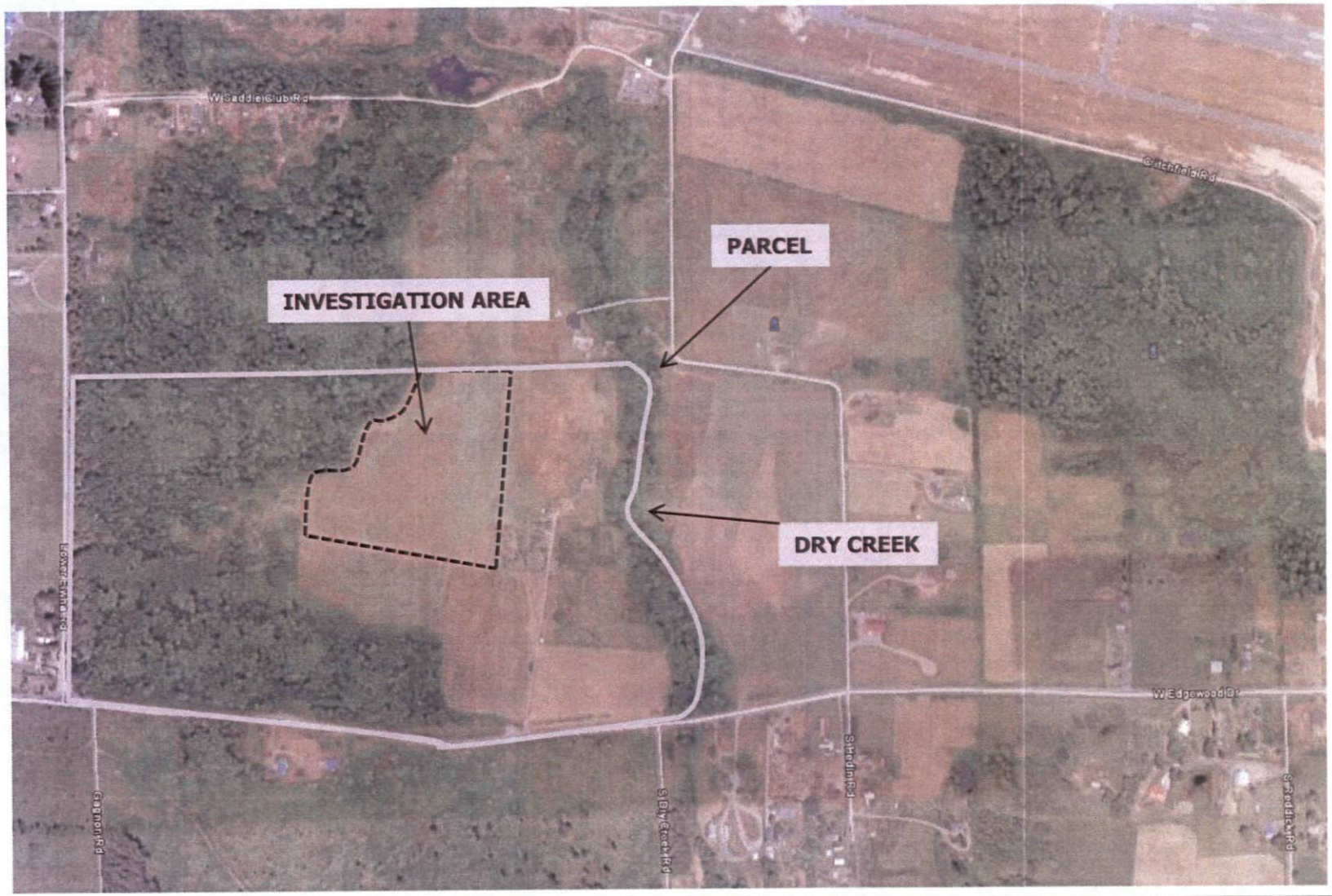
hydrology was present and stable as a high water table. The interior of the wetland proper retained a dense cover of Facultative and Facultative Wetland species. Wetlands tended to have less species diversity than the ecotone and surrounding non-wetland areas. Soils within and amongst the wetland and its ecotone were driven by the presence or absence of mottles. Dark brown soils were consistently present down to approximately 13-inches of the soil profiles. Hydrology was typically present with a stable water table at or within the upper 14-inches where a prominent and consistent clay layer was observed throughout the investigation area.

The interior of the site was deemed non-wetland with no hydrology, light brown soils and a vegetation community that was sparse and Upland dominate. All parameters for wetland jurisdiction were considered a valid representation for the determination despite the long term agricultural activities within the investigation area and the majority of the parcel as a whole. The use of this determination methodology was considered in depth. Based on the lack of alteration to these parameters, specifically vegetation and soils for nearly a decade, the vegetation was considered to be a reliable indicator for areas that could support wetland conditions. Equally the lack of surface disturbance allowed for easy comparison of soil profiles from observation point to observation point.

For the purpose of this report the wetlands within the investigation were rigorously documented for the determination of wetland and non-wetland alike. When the wetland areas were deemed to expand beyond the limits of the investigation area, proper sampling techniques for boundary line establishment were conducted and documented. The sampling procedure was repeated from the Wetland Training Institute, Inc. 1991. *Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual.* WTI 91-2. 133 pp. under Section E for Comprehensive Determinations.

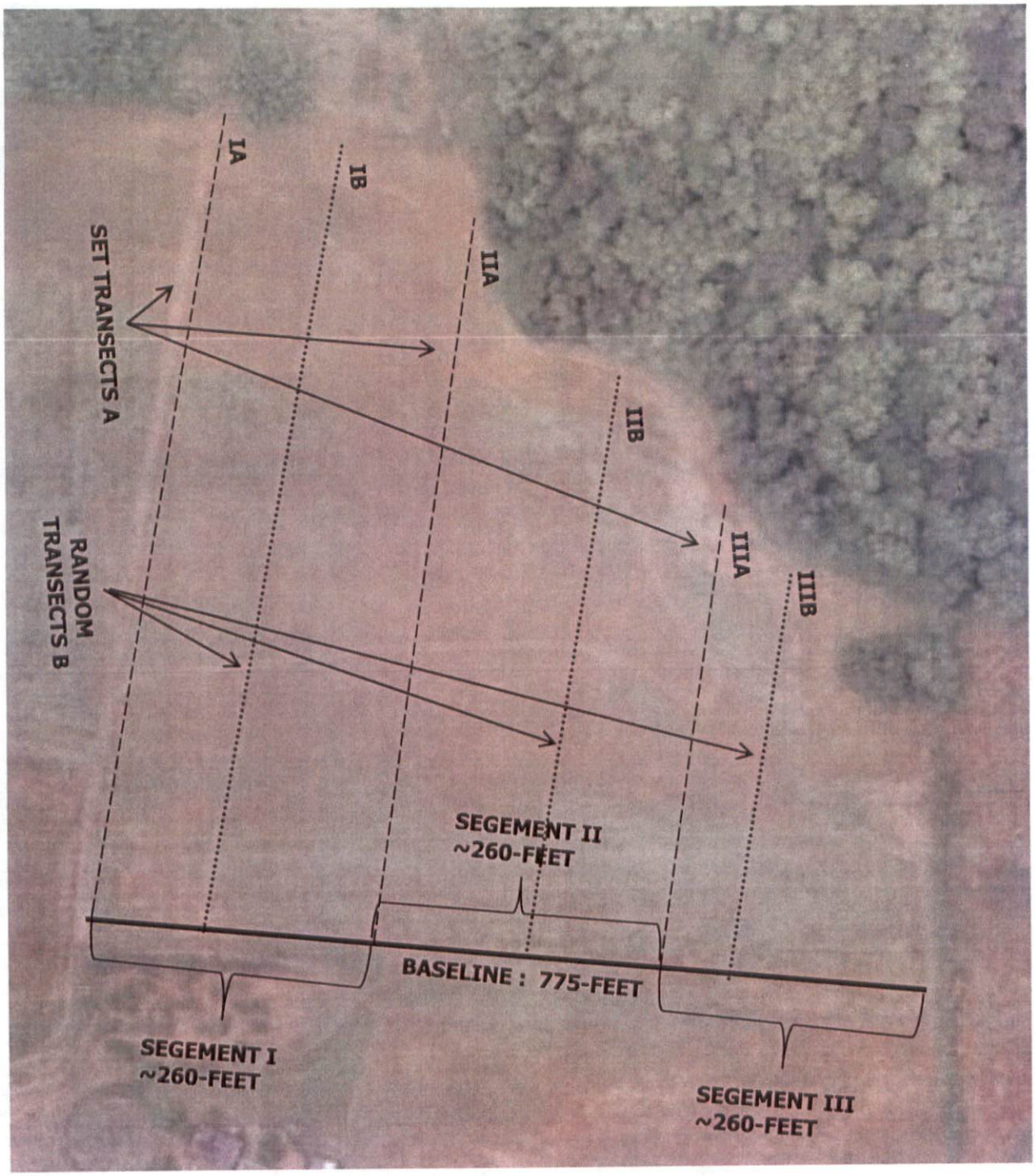


BGE Environmental, LLC. Wetland Consulting and Land Use Planning 2102 Brashem Ave Bremerton, WA 98310 360.710.6066	A2Z Enterprise Edgewwod Drive Port Angeles, Washington	VICINITY MAP 1



BGE Environmental, LLC. Wetland Consulting and Land Use Planning 2102 Brashem Ave Bremerton, WA 98310 360.710.6066	A2Z Enterprise Edgewwod Drive Port Angeles, Washington	INVESTIGATION AREA 2

BGE Environmental, LLC. Wetland Consulting and Land Use Planning 2102 Brashem Ave Bremerton, WA 98310 360.710.6066	A2Z Enterprise Edgewwod Drive Port Angeles, Washington	TOPOGRAPHY MAP 3



BGE Environmental, LLC. Wetland Consulting and Land Use Planning 2102 Brashem Ave Bremerton, WA 98310 360.710.6066	A2Z Enterprise Edgewwod Drive Port Angeles, Washington	BASELINE, SEGMENT AND TRANSECT DEVELOPMENT WITHIN INVESTIGATION AREA 4

APPENDIX A

BACKGROUND INFORMATION

Aerial Maps (3)
Soil Survey

- Map
- Fact Sheets
  - ✓ 4-Bellingham silty clay loam
  - ✓ 12-Clallam gravelly sandy loam, 0 to 15 percent slopes

National Wetland Inventory

BGE Environmental, LLC.
Wetland Consulting and Land Use Planning
2102 Brashem Ave
Bremerton, WA 98310
360.710.6066

A2Z Enterprise
Edgewwod Drive
Port Angeles, Washington

Aerial from 1965

BGE Environmental, LLC. Wetland Consulting and Land Use Planning 2102 Brashem Ave Bremerton, WA 98310 360.710.6066	A2Z Enterprise Edgewwod Drive Port Angeles, Washington	Aerial 1985

BGE Environmental, LLC. Wetland Consulting and Land Use Planning 2102 Brashem Ave Bremerton, WA 98310 360.710.6066	A2Z Enterprise Edgewwod Drive Port Angeles, Washington	Aerial 1995

BGE Environmental, LLC.
Wetland Consulting and Land Use Planning
2102 Brashem Ave
Bremerton, WA 98310
360.710.6066

A2Z Enterprise
Edgewwod Drive
Port Angeles, Washington

Soil Survey

Clallam County Area, Washington

4—Bellingham silty clay loam

Map Unit Setting

Elevation: 10 to 600 feet
Mean annual precipitation: 35 to 60 inches
Mean annual air temperature: 50 degrees F
Frost-free period: 150 to 210 days

Map Unit Composition

Bellingham and similar soils: 85 percent
Minor components: 12 percent

Description of Bellingham

Setting

Landform: Depressions on terraces
Parent material: Alluvium

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 11 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very high (about 12.3 inches)

Interpretive groups

Land capability (nonirrigated): 5w

Typical profile

0 to 9 inches: Silty clay loam
9 to 60 inches: Silty clay loam

Minor Components

Mckenna

Percent of map unit: 6 percent
Landform: Depressions

Puget

Percent of map unit: 6 percent
Landform: Terraces

Data Source Information

Soil Survey Area: Clallam County Area, Washington
Survey Area Data: Version 6, Sep 22, 2009

Clallam County Area, Washington

12—Clallam gravelly sandy loam, 0 to 15 percent slopes

Map Unit Setting

Elevation: 40 to 1,800 feet
Mean annual precipitation: 23 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 160 to 200 days

Map Unit Composition

Clallam and similar soils: 85 percent
Minor components: 3 percent

Description of Clallam

Setting

Landform: Hillslopes
Parent material: Till

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: 20 to 40 inches to dense material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability (nonirrigated): 4s

Typical profile

0 to 10 inches: Gravelly sandy loam
10 to 28 inches: Very gravelly sandy loam
28 to 60 inches: Very gravelly sandy loam

Minor Components

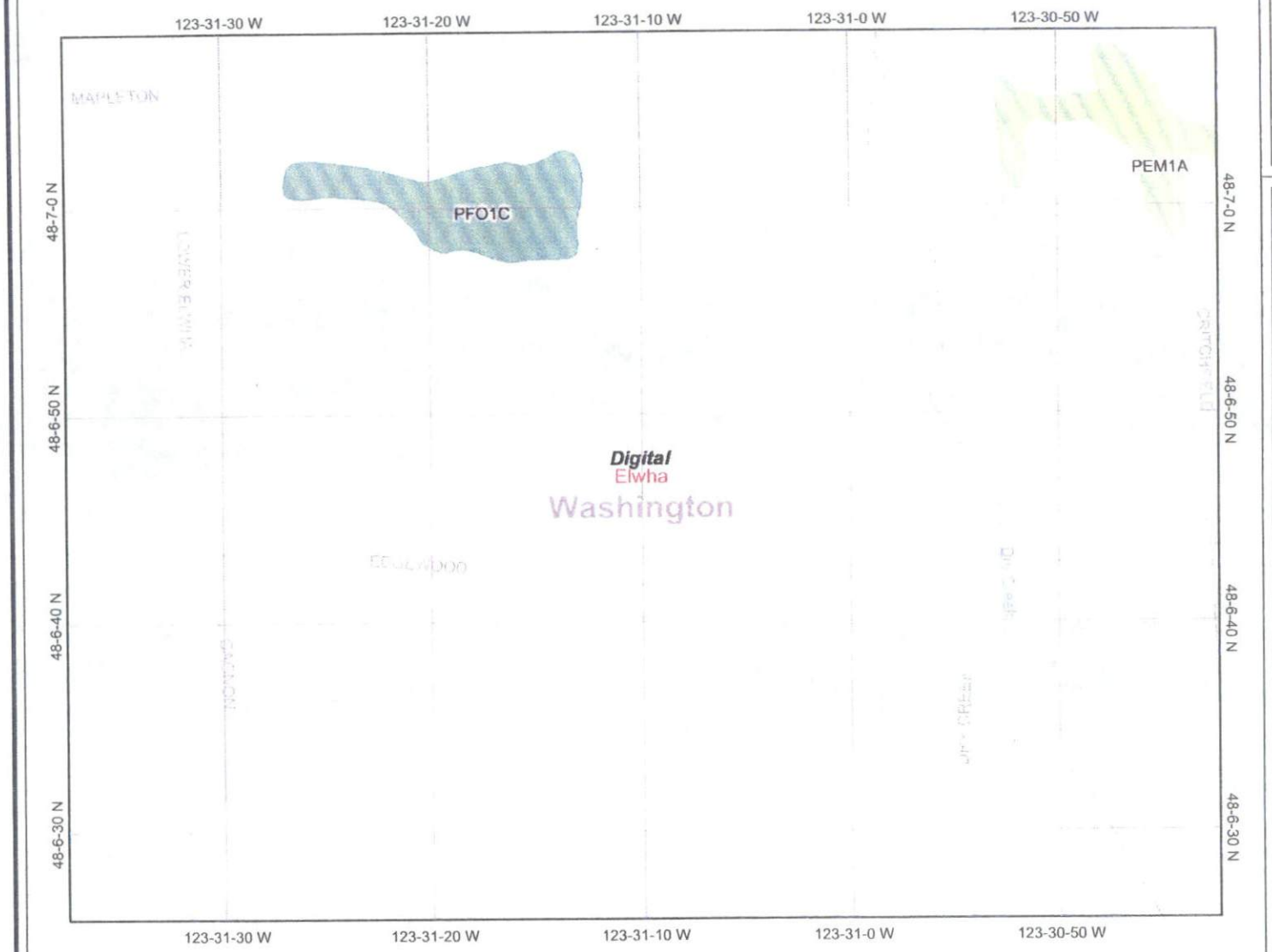
Mckenna

Percent of map unit: 3 percent
Landform: Depressions

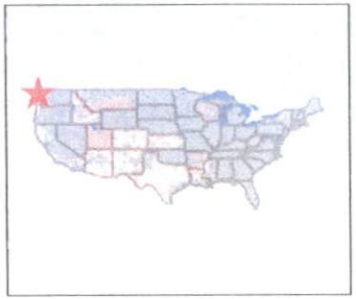
Data Source Information

Soil Survey Area: Clallam County Area, Washington
Survey Area Data: Version 8, Sep 10, 2009

Internet Mapping Framework



Map center: 48° 6' 47" N, 123° 31' 10" W



Legend

Ohio_wet_scan
- 0
- 1
- Out of range

Interstate
Major Roads

Other Road
- Interstate
- State highway
- US highway

Roads
- Cities
- USGS Quad Index 24K

Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan

- NHD Streams
- Counties 100K
- States 100K
- South America
- North America

Scale: 1:9,209

APPENDIX B

WETLAND DETERMINATION DATA SHEET

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site AZZ ENT. City/County PA/CLALLAM Sampling Date 3.18.10
Applicant/Owner MORRISON State WA Sampling Point IA1
Investigator(s) RNUERS Section, Township, Range
Landform (hillslope, terrace, etc.) TERRACE Local relief (concave, convex, none) FLAT Slope (%) 5%
Subregion (LRR) LRR A Lat Long Datum
Soil Map Unit Name BELLINGHAM (4) NWI classification NONE
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation SOIL Report, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes No X

Remarks: WATER PRESENCE ONLY

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size)			
1			
2			
3			
4			
	= Total Cover		
Sapling/Shrub Stratum (Plot size)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size)			
1 DACTYLIS GLOMERATA	70	✓	FACU
2 RANUNCULUS SPP	10		FACW
3 TRIFOLIUM SPP	10		FAC
4 VICIA HIRSUTA	25	✓	UPL
5 HYPOCHAERIS RADICATA	1		FAC
6 DAUCUS CAROTA	1		UPL
7			
8			
9			
10			
11			
	117 = Total Cover		
Woody Vine Stratum (Plot size)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species		x 1 =	
FACW species	10	x 2 =	20
FAC species	11	x 3 =	33
FACU species	70	x 4 =	280
UPL species	26	x 5 =	130
Column Totals	117 (A)		463 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No X

Remarks

SOIL

Sampling Point: IA1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10yr4/3		10yr5/6	7				WAM w/clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? ~~Yes~~ X No ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 4"

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available.

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site A22 City/County PA/CLALLAM Sampling Date 3.18.10
Applicant/Owner MADRONA State WA Sampling Point IA2
Investigator(s) RMYERS Section, Township, Range
Landform (hillslope, terrace, etc.) Terrace Local relief (concave, convex, none) Flat Slope (%) 5%
Subregion (LRR) LRR A Lat Long Datum
Soil Map Unit Name Bellingham (47) NWI classification none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation See report, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
	= Total Cover		
Sapling/Shrub Stratum (Plot size ____)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size ____)			
1. DACTYLIS GLOMERATA	40	✓	FACU
2. DAUCUS CAROTA	30	✓	UPL
3. RANUNCULUS SPP	10		FACW
4. TRIFOLIUM SPP	10		FAC
5. TARAXACUM OFFICIONALE	5		FACU
6. PLANTAGO LANCEOLATA	5		FACU+
7. VICIA HIRSUTA	5		UPL
8			
9			
10			
11	105		= Total Cover
Woody Vine Stratum (Plot size ____)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species		x 1 =	
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	50	x 4 =	200
UPL species	35	x 5 =	175
Column Totals	105	(A)	425 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks

SOIL

Sampling Point: EA2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10yr 3/3	@100%					clay loam	clay.
>14	10yr 4/3		10yr 4/4	15%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

low Chroma mottles

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes X No ____ Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 9"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available.

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site AZZ City/County PA/CLALLAM Sampling Date 3.18.10
Applicant/Owner MORRISON State WA Sampling Point TA3
Investigator(s) BMYERS Section, Township, Range
Landform (hillslope, terrace, etc.) Terrace Local relief (concave, convex, none) Flat Slope (%) 5%
Subregion (LRR) LRRA Lat Long Datum
Soil Map Unit Name Bellingham (4) NWI classification. none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil See report, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: TRANSECT runs between a variance of greener to drier looking vegetation @ supposed road seen on Aerials

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size ____)			
1. PLANTAGO LANCEOLATA	30	✓	FACU
2. RANUNCULUS SPP	5		FACW
3. TARAXACUM OFFICINALE	25	✓	FACU
4. TRIFOLIUM SPP	50	✓	FAC
5. DAUCUS CARATA	15		UPL
6.			
7.			
8.			
9.			
10.			
11.	125	= Total Cover	
Woody Vine Stratum (Plot size ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33.1 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	50	x 3 =	150
FACU species	55	x 4 =	220
UPL species	15	x 5 =	75
Column Totals	125 (A)		455 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: HYDROPHYTES NEITHER DOMINATE or prevalent

SOIL

Sampling Point: IA3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 4/1		7.5YR 4/4	40%				warm. clay/silt

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available.

Remarks:

clay and saturation @ 24"

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: A2Z City/County: Clallam Sampling Date: IA4

Applicant/Owner: Morrison State: Sampling Point: 3.18.10

Investigator(s): Kmyers Section, Township, Range:

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): FLAT Slope (%): 5%

Subregion (LRR): LRA Lat: Long: Datum:

Soil Map Unit Name: Bellingham (24) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ~~See report~~, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. PLANTAGO LANCEOLATA	10		FACU
2. DACTYLIS GLOMERATA	10		FACU
3. RANUNCULUS SPP	5		FACW
4. HYPOCHAERIS RADICATA	5		FAC
5. RUMEX CRISPUS	5		UPL
6. VICIA HIRSUTA	1		UPL
7.			
8.			
9.			
10.			
11.			
	36 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum: 20%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: none app.

Prevalence Index worksheet:

Total % Cover of:	Multiply by	
OBL species	x 1 =	
FACW species 5	x 2 =	10
FAC species 3	x 3 =	15
FACU species 20	x 4 =	80
UPL species 6	x 5 =	30
Column Totals: 36 (A)		(B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks

No dominates in plot or vicinity.

SOIL

Sampling Point: IA4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10yr 4/3		none					loam w/ peagra
@13 to 14 inches	clay loam 10yr 4/2 w/ 10yr 5/6 4 d.							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

Plates @ clay layer.
ANGULAR SOILS. -

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available.

Remarks:

Water Table @ 20"
Soils Moist @ 14" not saturated until 16"

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: A22 City/County: PA / CLARION Sampling Date: 3.18.10
Applicant/Owner: MORRISON BRUPERS State: _____ Sampling Point: IA5
Investigator(s): _____ Section, Township, Range: _____
Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): Flat Slope (%): 5%
Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Bellinghame (4) NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes ___	No ___	
Wetland Hydrology Present?	Yes ___	No ___	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size _____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
	= Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size _____)			
1 DACTYLIS GLOMERATA	60	✓	FACU
2 FESTUCA RUBRA	30	✓	FAC
3 RANUNCULUS SPP	5		FACW
4 TRIFOLIUM SPP	5		FAC
5 TARAXACUM OFFICIONALE	1		FACU
6 DAUCUS CAROTA	1		UPL
7 VICIA HIRSUTA	1		UPL
8			
9			
10			
11			
	103 = Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum: 10%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	35	x 3 =	105
FACU species	161	x 4 =	244
UPL species	2	x 5 =	10
Column Totals	103 (A)		366 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: AREA OF MOSTLY GRASSES W/ COMPLEX CEDER TO GROUND COVERS.

SOIL

Sampling Point: IA5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/3		10YR 5/6	7%			DK ORG Warm w/clay	
7-10	10YR 5/2	50%	10YR 4/6	50%			CLAY ~~LOAM~~	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks

~~HIGH~~ CLAY LAYER. UPPER REACH LACKS MOTTLES SLIGHTLY MORE CLAY PRESENCE IN UPPER PROFILE

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 13"

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site AZZ City/County Clallam Sampling Date IA16
Applicant/Owner Morrison State _____ Sampling Point _____
Investigator(s) BMyers Section, Township, Range _____
Landform (hillslope, terrace, etc.) Terrace Local relief (concave, convex, none) Flat Slope (%) 5%
Subregion (LRR) LRRA Lat _____ Long. _____ Datum: _____
Soil Map Unit Name Bellingham (4) NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes K No _____ (If no, explain in Remarks.)
Are Vegetation See report, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No K
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes /	No _____	Is the Sampled Area within a Wetland? Yes K No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No _____	

Remarks:
NO DATA TAKEN: Hyd @ surface Point inundated

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size _____)			
1			
2			
3			
4			
	= Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size _____)			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
	= Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
Total Number of Dominant Species Across All Strata: _____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks

SOIL

Sampling Point: IA6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site AZ City/County PLACER Sampling Date 3.18.10
Applicant/Owner Morrison State _____ Sampling Point TA7
Investigator(s) Smyers Section, Township, Range _____
Landform (hillslope, terrace, etc.) Terrace Local relief (concave, convex, none) _____ Slope (%) _____
Subregion (LRR) LRR A Lat _____ Long. _____ Datum _____
Soil Map Unit Name (4) Bellinghamn NWI classification _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size _____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	_____ = Total Cover		
Herb Stratum (Plot size _____)			
1 HYPOCHAERIS RADICATA	10		FAC
2 DAUCUS CAROTA	20	X	UPL
3 DACTYLIS GLOMERATA	45	X	FACU
4 TRIFOLIUM SPP	10		FAC
5 RANUNCULUS SPP	15		FACW
6 LEUCATHEMUM VULGARE	5		FACU
7 PLANTAGO LANCEOLATA	5		FACU
8			
9			
10			
11			
	120 = Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 15.1

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of	Multiply by
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species 20	x 3 = 60
FACU species 85	x 4 = 220
UPL species 45	x 5 = 225 505
Column Totals 120 (A)	505 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: Much more bare grnd than observed prior OP

SOIL

Sampling Point: IA7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/3	100					Clay Loam w/ pea gravel	
11-14	10YR 4/2	100	10YR 4/3	5			LOAM/CLAY	
>14	10YR 5/3	100	2.5Y 5/6	40			CLAY	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 10"

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site A2Z City/County PA/Clallam Sampling Date 3.18.10
Applicant/Owner Morrison State _____ Sampling Point IA8
Investigator(s) Bmyers Section, Township, Range _____
Landform (hillslope, terrace, etc.) Terrace Local relief (concave, convex, none) _____ Slope (%) 5%
Subregion (LRR) LRR A Lat _____ Long _____ Datum _____
Soil Map Unit Name Clallam (12) NWI classification none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____, Soil _____ or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No X
Hydric Soil Present? Yes _____ No X
Wetland Hydrology Present? Yes X No _____
Is the Sampled Area within a Wetland? Yes _____ No X

Remarks: Soils marginal w/ high water table. Higher % of exposed soils suggests ponded surface @ times w/ slower permeability.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size _____)			
1 Doug Fir. Saplings	1		UPL
2			
3			
4			
	1 = Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size _____)			
1 P. CALOTA	25	X	UPL
2 TRIFOLIUM SPP	20	X	FAC
3 P. LACEOLATA	20	X	FACU
4 LEUCANTHEMUM VULGARE	10		UPL
5			
6 HYPOCHAERIS RADICATA	5		FAC
7 PRUNELLA VULGARIS	1		FAC
8			
9			
10			
11	71		
	= Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum 20%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33.1 (A/B)

Prevalence Index worksheet:

Total % Cover of	Multiply by	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 26	x 3 =	78
FACU species 20	x 4 =	80
UPL species 25	x 5 =	125
Column Totals 71 (A)		283 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: lots of bare ground.

SOIL

Sampling Point: TA8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/3	100						Clay loam/loam
7-10	10YR 5/3	75	7.5YR 5/6	30				Clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): ____

Water Table Present? Yes X No ____ Depth (inches): 11

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: A2Z | City/County: PA CLALLAM | Sampling Date: 3.18.10
Applicant/Owner: Morrison | State: | Sampling Point: IB1
Investigator(s): RMyers | Section, Township, Range:
Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): | Slope (%): 5.1
Subregion (LRR): LRRA | Lat: | Long: | Datum:
Soil Map Unit Name: ~~Clallam. HD (H)~~ | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size ____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
	= Total Cover		
Sapling/Shrub Stratum (Plot size ____)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size ____)			
1 DACTYLIS GLOMERATA	30	X	FACU
2 PLANTAGO LANCEOLATA	25	X	FACU
3 DAUCUS CAROTA	20	X	UPL
4 TARAXACUM OFFICINALE	10		FACU
5 TRIFOLIUM SPP	10		FAC
6 LEUCANTHEMUM VULGARE	10		UPL
7			
8			
9			
10			
11			
	105 = Total Cover		
Woody Vine Stratum (Plot size ____)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum: 5%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 6.1 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	10	x 3 =	30
FACU species	105	x 4 =	420
UPL species	30	x 5 =	150
Column Totals:	105 (A)		440 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: TB1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/4		10YR 5/6				clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): 17"

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available.

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site AZT City/County Cochise Sampling Date 3.18.10
Applicant/Owner Morrison State _____ Sampling Point TB2
Investigator(s) R.Myers Section, Township, Range _____
Landform (hillslope, terrace, etc.) _____ Local relief (concave, convex, none) _____ Slope (%) 5%
Subregion (LRR) LRR A Lat _____ Long _____ Datum _____
Soil Map Unit Name Bellinghaum (4) NWI classification _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____ Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____ Soil _____ or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No X
Hydric Soil Present? Yes _____ No X
Wetland Hydrology Present? Yes _____ No X
Is the Sampled Area within a Wetland? Yes _____ No X

Remarks

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size _____)			
1			
2			
3			
4			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	_____ = Total Cover		
Herb Stratum (Plot size _____)			
1 B. GUDDMELATA	30	X	FACU
2 DAUCUS CAROTA	20	X	UPL
3 P. LANCEOLATA	25	X	FACU
4 TRIFOLIUM SPP.	10		FAC
5 TARAXACUM OFFICINALE	10		FACU
6			
7 LEUCANTHEMUM VULGARE	10		UPL
8			
9			
10			
11	105		
	105 = Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 25.1.

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.1. (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	10	x 3 =	30
FACU species	105	x 4 =	260
UPL species	30	x 5 =	150
Column Totals	105 (A)		440 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes _____ No X

Remarks

SOIL

Sampling Point: TB2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR4/4	97	10YR6/6	3	C			clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): 17"

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks

No Saturation in the upper 12"
Soils moist.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site A27 City/County PA CAMAM Sampling Date 3.18.10
Applicant/Owner Nordstrom State _____ Sampling Point EB3
Investigator(s) Rnupers Section, Township, Range _____
Landform (hillslope, terrace, etc.) Terrace Local relief (concave, convex, none) _____ Slope (%) 5%
Subregion (LRR) LRR A Lat _____ Long _____ Datum _____
Soil Map Unit Name Bellingham NWI classification none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes K No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No K
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size _____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	_____ = Total Cover		
Herb Stratum (Plot size _____)			
1 P. LANCEOLATA	40	X	FACW
2 DAUCUS CAROTA	20	X	UPL
3			
4 L. VULGARE	20	X	UPL
5 HYPOCHAERIS RADICATA	15		FAC
6 TRIFOLIUM SPP	10		FACU
7 VICIA HIRSUTA	5		UPL
8			
9			
10			
11			
	110 = Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 5.1.

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.1 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species		x 1 =	
FACW species	10	x 2 =	20
FAC species	15	x 3 =	45
FACU species	40	x 4 =	160
UPL species	45	x 5 =	225
Column Totals	110 (A)		450 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks

SOIL

Sampling Point: DB3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR4/4		10YR5/6	1%				GRAVELLY LOAM

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: AZA City/County: PA / CALLAM Sampling Date: 3-18-10

Applicant/Owner: NICHOLSON State: _____ Sampling Point: IB4

Investigator(s): R MYERS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): LRRA Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: BELLINGHAM (4) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size _____)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	_____ = Total Cover		
Herb Stratum (Plot size _____)			
1 DACTYLIS GLOMERATA	40	X	FACU
2 DAUCUS CAROTA	20	X	UPL
3 RANUNCULUS SPP.	5		FACW
4 HYPOCHAERIS RADICATA	5		FAC
5 TARAXACUM OFFICINALE	15		FACU
6 PLANTAGO LANCEOLATA	5		FACU
7 VICIA HIRSUTA	1		UPL
8 FESTUCA RUBRA	1		FAC
9			
10			
11			
	92 = Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	6	x 3 =	18
FACU species	60	x 4 =	240
UPL species	21	x 5 =	105
Column Totals	92 (A)		373 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks

SOIL

Sampling Point: TB4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR3/3	100					Clay Loam	
>13"	10YR5/2	60%	7.5YR5/6	40%			~~Silt~~ Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site A27 City/County Clallam Sampling Date 3.18.10
Applicant/Owner Morrison State _____ Sampling Point IB5
Investigator(s) Knuyers Section, Township, Range _____
Landform (hillslope, terrace, etc.) _____ Local relief (concave, convex, none) _____ Slope (%) 5%
Subregion (LRR) LRR A Lat _____ Long. _____ Datum _____
Soil Map Unit Name Clallam (12) NWI classification _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____ Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____ Soil _____ or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes /	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes /	No _____	
Wetland Hydrology Present?	Yes /	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size _____)			
1			
2			
3			
4			
	= Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size _____)			
1 D. glomerata	30	X	FACU
2 Ranunculus spp	20	X	FACW
3 D. CAROTA	20	X	UPL
4 TRIFOLIUM spp	20	X	FAC
5 P. lanceolata	5		FACU
6 F. rubra	10		FAC
7			
8			
9			
10			
11	105		
	= Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum 5%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of	Multiply by
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: IB5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/3		10YR 4/6	10%				Clay loam
7-11	10YR 6/2		10YR 5/6	30%				to clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 11"

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: A22 | City/County: Clallam | Sampling Date: 3.18.10
Applicant/Owner: Morrison | State: | Sampling Point: TB6
Investigator(s): Smyers | Section, Township, Range:
Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): | Slope (%):
Subregion (LRR): LRR A | Lat: | Long: | Datum:
Soil Map Unit Name: Clallam (12) | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes / No
Hydric Soil Present? Yes / No
Wetland Hydrology Present? Yes / No
Is the Sampled Area within a Wetland? Yes X No

Remarks: PLOT BARELY MAKES (+) HYDROPHYTE & SOILS ARE CLOSE. STANDING H2O WAS MORE OF THE BIAS TOWARDS WETLAND.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size ____)			
1			
2			
3			
4			
	= Total Cover		
Sapling/Shrub Stratum (Plot size ____)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size ____)			
1. D. glomerata	25	X	FACU
2. RANUNCULUS spp	20	X	FACU
3. TRIFOLIUM spp.	10		FAC
4. V. HIRSUTA	10		UPL
5. H. radicata	5		FAC
6. D. carota	5		UPL
7. L. vulgare	5		UPL
8			
9			
10			
11			
	= Total Cover		
Woody Vine Stratum (Plot size ____)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum: 30%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: DIRECTLY OUTSIDE PLOT WHERE THERE IS NO STANDING H2O & D. glomerata loses dominance but UPL forbes still prom.

SOIL

Sampling Point: IB6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR3/3		10YR4/6	7%				clay loam
7-10"	10YR5/2	60%	10YR5/6	40%				~~fine~~ clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 6"

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks: AREAS OF STANDING H2O NO VEG. THIS IS JUST A POCKETED DEPRESSION W/ standing H2O. ~~IS NO OBV OBSERVABLE CHANGE IN~~ LACKS Hummocks & CHANNELS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site 122 City/County Clallam Sampling Date 3.18.10
Applicant/Owner Mattson State _____ Sampling Point TBT
Investigator(s) Rivers Section, Township, Range _____
Landform (hillslope, terrace, etc.) Terrace Local relief (concave, convex, none) _____ Slope (%) 5°.
Subregion (LRR) LRR A Lat _____ Long _____ Datum _____
Soil Map Unit Name Clallam (12) NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size _____)			
1			
2			
3			
4			
	= Total Cover		
Sapling/Shrub Stratum (Plot size _____)			
1			
2			
3			
4			
5			
	= Total Cover		
Herb Stratum (Plot size _____)			
1 D. glomerata	20	x	FACU
2 D. carota	30	x	UPL
3 Festuca rubra	30	x	FAC
4 Leucanthemum vulgare	25	x	UPL
5 Ranunculus spp	15		FACW
6 H. radicata	10		FAC
7 Trifolium spp	10		FAC
8			
9			
10			
11			
	140 = Total Cover		
Woody Vine Stratum (Plot size _____)			
1			
2			
	= Total Cover		

% Bare Ground in Herb Stratum 20.1.

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 25.1. (A/B)

Prevalence Index worksheet:

Total % Cover of	Multiply by	
OBL species	x 1 =	
FACW species 15	x 2 =	30
FAC species 60	x 3 =	180
FACU species 20	x 4 =	80
UPL species 55	x 5 =	275
Column Totals 140 (A)		535 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks

SOIL

Sampling Point: DB7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR3/3	100						Clay Loam
13+	10YR5/2	100	10YR5/4	10	C	M		Clay
			10YR4/6	30	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes X No ____ Depth (inches): 3.11

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks